



U.S. Department of Commerce Patent and Trademark Office <b>INFORMATION DISCLOSURE STATEMENT</b>				Attorney Docket No. <b>25436/1344</b>		Serial No. <b>10/777,010</b>		
				Applicant(s): <b>Carstens</b>				
				Filing Date: <b>February 11, 2004</b>		Group: <b>1633</b> <del>2434</del>		
<b>U.S. PATENT DOCUMENTS</b>								
Examiner Initial		Patent No.	Date	Name	Class	Subclass	Filing Date (if appropriate)	
<b>FOREIGN PATENT DOCUMENTS</b>								
Examiner Initial		Document No.	Publication Date	Country	Class	Subclass	Translation	
							YES	NO
MB	1.	EP0835938A2	April 15, 1998	EP	C12N	15/61		
<b>OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)</b>								
MB	2.	Makrides, "Strategies for Achieving High-Level Expression of Genes in <i>Escherichia coli</i> ", Microbiological Reviews (1996), V. 60, No. 3, Pages 512-538.						
MB	3.	Copy of the European Examination Report.						
EXAMINER     /Michael Burkhart/					DATE CONSIDERED     01/03/2007			
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.								
**Copies of references not provided at the time of this submission.								

USPTO Form 1449 U.S. Department of Commerce Patent and Trademark Office				Attorney Docket No. <b>25436/1344</b>		Serial No. <b>10777, 01 D</b> <del>Not yet assigned</del>	
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<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initial		Patent No.	Date	Name	Class	Subclass	Filing Date (if appropriate)
MB		6,270,988	August 7, 2001	Brinkmann, et al.	435	69.1	
<b>FOREIGN PATENT DOCUMENTS</b>							
Examiner Initial		Document No.	Date	Country	Class	Subclass	Translation
						YES      NO	
<b>OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)</b>							
MB		Kane, J.F., "Effects of rare codon clusters on high-level expression of heterologous proteins in <i>Escherichia coli</i> ", <i>Current Opinion in Biotechnology</i> 6:494-500 (1995);					
MB		Bonekamp, et al, "Codon-defined ribosomal pausing in <i>Escherichia coli</i> detected by using the pyer attenuator to probe the coupling between transcription and translation", <i>Nucleic Acid Res</i> 13:4113-23 (1985);					
MB		Deana, A., et al. "Silent Mutations in the <i>Escherichia coli</i> ompa leader peptide region strongly affect transcription and translation in vivo", <i>Nucleic Acids Res</i> 26:4778-4782 (1998);					
MB		Rosenberg, A.H., et al., "Effects of consecutive AGG codons on translation in <i>Escherichia coli</i> , demonstrated with a versatile codon test system" <i>J. Bacteriol</i> 175:716-22 (1993);					
MB		Goldman, E., et al., "Consecutive low usage leucine codons block translation only when near the 5' end of a message in <i>Escherichia coli</i> " <i>J. Mol. Biol.</i> 245:467-73(1995);					
MB		Degryse, E., "Influence of the second and third codon on the expression of recombinant hirudin in <i>E. coli</i> " <i>FEBS Lett</i> , 269:244-6 (1990);					
MB		Spanjaard, R.A., et al., "Frameshift suppression at tandem AGA and AGG Codons by cloned tRNA genes: assigning a codon to argu tRNA and T4 tRNA (Arg)", <i>Nucleic Acids Res.</i> 18:5031-6 (1990);					
MB		Kane, J.F., et al, "Novel in frame two codon translationalhop during synthesis of bovine placental lacotogen in a recombinant strain of <i>Escherichia coli</i> ", <i>Nucleic Acids Res.</i> 20:6707-12 (1992);					
MB		Calderone, T.L., et al., "High-level misincorporation of lysine for arginine at AGA codons in a fusion protein expressed in <i>Escherichia coli</i> ", <i>J. Mol. Biol</i> 262: 407-12 (1996);					
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MB		Brinkman, et al. "High level expression of recombinant genes in <i>Escherichia coli</i> is dependent on the availability of the dna Y gene product", <i>Gene</i> 85:109-14 (1989);					

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MB		Hua, et al, "Enhancement of Expression of human granulocyte-macrophage colony stimulating factor by argu gene product in escherichia coli" <i>Biochem Mol. Biol. Int.</i> 32:537-43 (1994);					
MB		Chen, et al., "Role of the AGA/AGG codons, the rarest codons in global gene expression in Escherichia coli" <i>Genes Dev</i> 8:2641-52 (1994);					
MB		Garcia, et al., "The argU Gene product enhances expression of the recombinant human interferon in Escheria coli" <i>Ann N.Y. Acad Sci</i> 782:79-86;					
MB		Kim, et al., "Overexpression of archael proteins in Escherichia coli" <i>Biotech. Lett</i> 20:207-210 (1998);					
MB		Rojjani, et al. "Relationship between protein synthesis and concentrations of charged and uncharged tRNA in Escheria Coli" <i>Proc. Nat. Acad. Sci U.S.A.</i> 87:1511-1515 (1990);					
MB		Sharp, et al., "Codon usage in regulatory genes in Escherichia coli does not reflect selevtion for rare codons" <i>Nucleic Acids Res.</i> 14:7737-7749 (1986); and					
MB		Del Tito, Jr., et al. "Effects of a Minor Isoleucy 1 tRNA on Heterologous Protein Translation in Escherichia coli.", <i>Journal of Bacteriology</i> , December 1995, Vol. 177, No.: 24 pages 7086-7091.					
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